

App. No. 09/670,073
Amendment Dated August 31, 2005
Reply to Final Office Action of July 22, 2005

Listing of claims:

1. (Currently amended) A computer-readable medium having computer-executable instructions comprising:

assigning a value to a unique identifier that is used to identify a version of software associated with an executable, wherein:

the value is associated with a feature of update information that is used to update the corresponding version of the software, and

the feature comprises at least one of: the location of the update information, a method for locating the update information, a time stamp associated with the update information, the size of the update information, a signature associated with the update information, and the age of the update information;

generating a request to obtain location information of the update information using the unique identifier;

querying a first server for the location information using the request, wherein:

the location information includes information about a location of a second server that comprises the update information, and

the location information identifies the second server type;

linking the first server to the second server;

querying the second server for the update information using a protocol associated with the second server type identified in the location information;

receiving the update information from the second server; and

updating the version of the software identified by the unique identifier based on the update information.

2. (Previously presented) The computer-readable medium of claim 1, wherein querying a first server further comprises providing a path to a look up HyperText Transfer Protocol (HTTP) symbol location server.

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3. (Previously presented) The computer-readable medium of claim 1, wherein querying a first server further comprises querying a Dynamic Host Configuration Protocol (DHCP) server and requesting Uniform Resource Identifiers (URIs) to query the second server for the update information.

4. (Previously presented) The computer-readable medium of claim 1, wherein querying a first server further comprises querying a Domain Name System (DNS) server for a service (SRV) record identifying the second server to be queried.

5. (Previously presented) The computer-readable medium of claim 1, wherein querying a first server further comprises querying a directory service for the location information.

6. (Previously presented) The computer-readable medium of claim 1, wherein querying a first server further comprises querying an Application Configuration Access Protocol (ACAP) server for the location information.

7. (Previously presented) The computer-readable medium of claim 1, wherein querying a first server further comprises querying a Lightweight Directory Access Protocol (LDAP) server for the location information.

8. (Currently amended) A computer-readable medium having computer-executable instructions comprising:

assigning a value to a unique identifier that is used to identify a version of a local file, wherein:

the value is associated with a feature of a symbol that is used to update the corresponding version of the local file, and

the feature comprises at least one of: the location of the update information, a method for locating the update information, a time stamp associated with

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the update information, the size of the update information, a signature associated with the update information, and the age of the update information;

creating a path to a symbol location server based on the unique identifier, wherein the unique identifier identifies a protocol associated with the symbol location server;

querying the symbol location server through the path for the symbol using the protocol;

receiving the symbol from the symbol location server through the path; and
updating software associated with the local file using the symbol.

9. (Previously presented) The computer-readable medium of claim 8, wherein assigning a value further comprises extracting the unique identifier from an image header of the local file.

10. (Previously presented) The computer-readable medium of claim 9, wherein a value is not replicated between differing versions of the local file.

11. (Previously presented) The computer-readable medium of claim 8, wherein receiving the symbol further comprises receiving a file comprising the symbol, wherein the file is stored in a local system memory.

12. (Previously presented) The computer-readable medium of claim 8, wherein querying the symbol location server further comprises querying the symbol location server with a user customized query which extracts over a back end store.

13. (Currently amended) A computer-readable medium having computer-executable instructions comprising:

assigning a value to a unique identifier that is used to identify a version of software associated with an executable, wherein:

the value is associated with a feature of update information that is used to update the corresponding version of the software, and

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the feature comprises at least one of: the location of the update information, a method for locating the update information, a time stamp associated with the update information, the size of the update information, a signature associated with the update information, and the age of the update information;

generating a request using the unique identifier to obtain from a first server location information associated with a second server, wherein:

the second server comprises the update information, and

the location information identifies the second server type;

creating a path to the second server;

querying the second server through the path for the location information using the request using a protocol associated with the second server type identified in the location information;

receiving the update information from the second server through the path; and

updating the version of the software identified by the unique identifier based on the update information.

14. (Previously presented) The computer-readable medium of claim 13, wherein receiving the update information further comprises receiving a reference location associated with the second server to access a file associated with the executable on the second server.

15. (Previously presented) The computer-readable medium of claim 13, wherein querying the second server further comprises querying a server selected from a group consisting of a DHCP server, a DNS server, an ACAP server, and a LDAP server.

16. (Previously presented) The computer-readable medium of claim 15, wherein querying the second server further comprises querying a set of servers in parallel.

17. (Previously presented) The computer-readable medium of claim 15, wherein querying the second server further comprises querying a set of servers in a serial order.

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18. (Previously presented) The computer-readable medium of claim 13, wherein querying the second server further comprises packaging information extracted from the executable into a request and sending the request to the second server.

19. (Currently amended) A computer-readable medium having computer-executable instructions comprising:

assigning a value to a unique identifier that is used to identify a version of software associated with an executable, wherein:

the value is associated with a feature of update information that is used to update the corresponding version of the software, and

the feature comprises at least one of: the location of the update information, a method for locating the update information, a time stamp associated with the update information, the size of the update information, a signature associated with the update information, and the age of the update information;

generating a request to obtain location information of the update information using the unique identifier;

querying a first server for the location information using the request, wherein:

the location information includes information about a location of a second server that comprises the update information, and

the location information identifies the second server type;

receiving the location information from the first server;

creating a path to the second server based on the type of the update information;

querying the second server through the path for the update information using a protocol associated with the second server type identified in the location information; and

updating the version of the software identified by the unique identifier based on the update information.

20. (Previously presented) The computer-readable medium of claim 19, wherein querying a first server further comprises querying the first server using metadata associated with the executable.

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21. (Previously presented) The computer-readable medium of claim 19, wherein querying the second server further comprises querying the second server using metadata associated with the executable.

22. (Previously presented) The computer-readable medium of claim 21, wherein the metadata comprises metadata for debug files.

23. (Previously presented) The computer-readable medium of claim 21, wherein the metadata comprises metadata for source files.

24. (Previously presented) The computer-readable medium of claim 19, wherein querying the second server further comprises querying the second server for symbols associated with the executable.

25. (Previously presented) The computer-readable medium of claim 19, wherein querying the second server further comprises querying the second server for regression analysis data associated with the executable.

26. (Previously presented) The computer-readable medium of claim 19, wherein querying the second server further comprises querying the second server for performance analysis data associated with the executable.

27. (Previously presented) The computer-readable medium of claim 19, wherein querying the second server further comprises querying the second server for source code associated with the executable.

28. (Previously presented) The computer-readable medium of claim 19, wherein querying the second server further comprises receiving files comprising the update information.

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29. (Currently amended) A computer-readable medium having computer-executable instructions for updating a software program associated with an executable file, comprising:
assigning a value to a unique identifier that is used to identify a version of software associated with the executable file, wherein:

the value is associated with a feature of update information that is used to update the corresponding version of the software, and

the feature comprises at least one of: the location of the update information, a method for locating the update information, a time stamp associated with the update information, the size of the update information, a signature associated with the update information, and the age of the update information;

packaging metadata extracted from the executable file into a request, wherein the metadata is associated with the unique identifier;

creating a path to a locator server, wherein:

the locator server comprises location information for a server on which the update information is located, and

the location information identifies the server type;

sending through the path the request to the server, wherein the request corresponds to a protocol associated with the server type identified in the location information;

receiving the update information from the server through the path; and

updating the version of the software identified by the unique identifier based on the update information.

30. (Previously presented) The computer-readable medium of claim 29, wherein packaging metadata further comprises packaging metadata to locate an updated version of the executable file.

31. (Previously presented) The computer-readable medium of claim 29, wherein packaging metadata further comprises packaging metadata for locating a debug file associated with the executable file.

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32. (Previously presented) The computer-readable medium of claim 29, wherein packaging metadata further comprises packaging metadata to locate a specific build version of the executable file.

33. (Previously presented) The computer-readable medium of claim 29, wherein receiving the update information further comprises receiving an HTTP redirect.

34. (Previously presented) The computer-readable medium of claim 29, wherein receiving the update information further comprises receiving a location of the server on which the update information is located, and querying the server with the unique identifier for the update information.

35. (Previously presented) The computer-readable medium of claim 34, wherein querying the server further comprises providing a qualifier.

36. (Currently amended) A computerized system comprising:
a first server comprising location information for update information that is used to update a corresponding version of software associated with a local file, wherein:
the version of the software is identified by a unique identifier that has an assigned value associated with a feature of the update information,
the feature comprises at least one of: the location of the update information, a method for locating the update information, a time stamp associated with the update information, the size of the update information, a signature associated with the update information, and the age of the update information, and ~~further wherein~~
the location information identifies the type of server that comprises the update information;
a second server comprising the update information, wherein:
the first server is linked to the second server through a path that is created based on the value,

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the first server queries the second server through the path for the update information using a protocol associated with the second server type identified in the location information, and

the first server receives the update information from the second server through the path; and

a computer comprising the local file, wherein the first server provides the update information to the computer such that the version of the software identified by the unique identifier is updated based on the update information.

37. (Previously presented) The system of claim 36, wherein the update information comprises debug information.

38. (Previously presented) The system of claim 36, wherein the update information comprises solution access information.

39. (Previously presented) The system of claim 36, wherein the computer reads the update information from the second server.

40. (Previously presented) The system of claim 36, wherein the first server comprises a HyperText Transfer Protocol (HTTP) server.

41. (Previously presented) The system of claim 40, wherein the HTTP server comprises a Dynamic Host Configuration Protocol (DHCP) server having Uniform Resource Identifiers (URIs) for querying the second server.

42. (Previously presented) The system of claim 40, wherein the HTTP server comprises a Domain Name System (DNS) server having a service (SRV) record for identifying the second server.

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43. (Previously presented) The system of claim 40, wherein the HTTP server comprises a directory service for providing the location information for the update information to the computer.

44. (Previously presented) The system of claim 36, wherein the first server comprises an Application Configuration Access Protocol (ACAP) server.

45. (Previously presented) The system of claim 36, wherein the first server comprises a Lightweight Directory Access Protocol (LDAP) server.

46. (Previously presented) The system of claim 36, wherein the computer is networked to the first and the second servers over the Internet.

47. (Currently amended) A computerized system comprising:
a first server comprising location information for update information that is used to update a corresponding version of software associated with an executable file, wherein:
the version of the software is identified by a unique identifier that has an assigned value associated with a feature of the update information,
the feature comprises at least one of: the location of the update information, a method for locating the update information, a time stamp associated with the update information, the size of the update information, a signature associated with the update information, and the age of the update information, and ~~further wherein~~
the location information identifies the type of server that comprises the update information;
a second server comprising the update information, wherein the first server is linked to the second server through a path that is created based on the value; and
a computer comprising the executable file, wherein the first server is adapted to provide the computer with the location information, and further wherein the computer uses the location information to query the second server through the path for the update information using a protocol associated with the second server type identified in the location information such that

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the version of the software identified by the unique identifier is updated based on the update information.

48. (Previously presented) The system of claim 47, wherein the first server is selected from a group consisting of a DHCP server, a DNS server, an ACAP server, and a LDAP server.

49. (Previously presented) The system of claim 47, wherein the computer is configured to query a hierarchy of first servers in serial order.

50. (Previously presented) The system of claim 47, wherein the computer is configured to query a hierarchy of first servers in parallel.

51. (Previously presented) The system of claim 47, wherein the update information comprises solution access information.

52. (Previously presented) The system of claim 47, wherein the computer is configured to query the second server, in an HTTP request format, for the update information using a qualifier associated with the executable file.

53. (Previously presented) The system of Claim 47, wherein the query to the second server is performed using metadata extracted from the executable file.

54. (Previously presented) The system of claim 53, wherein the metadata extracted from the executable file comprises metadata for a debug file associated with the executable file.

55. (Previously presented) The system of claim 53, wherein the metadata extracted from the executable file comprises metadata associated with regression analysis data for the executable file.

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56. (Currently amended) A computer-readable medium having computer executable instructions to cause a computing system to perform a method for updating software associated with an executable file, comprising:

assigning a value to a unique identifier that is used to identify a version of software associated with an executable file, wherein:

the value is associated with a feature of update information that is used to update the corresponding version of the software, and

the feature comprises at least one of: the location of the update information, a method for locating the update information, a time stamp associated with the update information, the size of the update information, a signature associated with the update information, and the age of the update information;

creating a path from a lookup server to a server having the update information based on the value;

using the lookup server to identify location information for the server having the update information based on metadata extracted from the executable file, wherein:

the metadata is associated with the unique identifier, and

the location information identifies the server type;

packaging a query for retrieving the update information through the path, wherein the query corresponds to a protocol associated with the server type identified in the location information;

retrieving the update information; and

updating the version of the software identified by the unique identifier based on the update information.

57. (Previously presented) The computer-readable medium of claim 56, wherein using the lookup server further comprises providing a response to a requesting client from the lookup server.

58. (Previously presented) The computer-readable medium of claim 57, further comprising forwarding the location information to a requesting client as an HTTP redirect.

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59. (Currently amended) A method for updating software associated with a local file, comprising:

assigning a value to a unique identifier that is used to identify a version of software associated with the local file, wherein:

the value is associated with a feature of update information that is used to update the corresponding version of the software, and

the feature comprises at least one of: the location of the update information, a method for locating the update information, a time stamp associated with the update information, the size of the update information, a signature associated with the update information, and the age of the update information;

packaging metadata extracted from the local file into a request to obtain the update information, wherein the metadata is associated with the unique identifier;

sending the request to a locator server;

receiving location information from the locator server, wherein the location information identifies the type of server that comprises the update information;

packaging a query for retrieving the update information based on the location information, wherein the query corresponds to a protocol associated with the type of server identified in the location information; and

updating the version of the software identified by the unique identifier based on the update information.

60. (Previously presented) The method of claim 59, wherein packaging the query further comprises qualifying the query to select a specific file version from the update information.

61. (Previously presented) The method of claim 60, wherein qualifying the query further comprises qualifying the query to select an updated file version associated with the local file.

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62. (Previously presented) The method of claim 60, wherein qualifying the query further comprises qualifying the query to select a specific debug file associated with the local file.

63. (Currently amended) A server architecture comprising;
a first server comprising location information for update information that is used to update a corresponding version of software associated with an executable file, wherein:
the version of the software is identified by a unique identifier that has an assigned value associated with a feature of the update information,
the feature comprises at least one of: the location of the update information, a method for locating the update information, a time stamp associated with the update information, the size of the update information, a signature associated with the update information, and the age of the update information, and further wherein
the location information identifies the type of server that comprises the update information;
a second server linked to the first server based on the value, wherein the second server comprises the update information associated with the executable file;
means for interpreting metadata associated with the unique identifier received by the first server from a remote client;
means for generating a query for retrieving the update information using a protocol associated with the second server type identified in the location information;
means for redirecting the remote client to the second server, wherein the second server is adapted to interpret the query from the remote client; and
means for updating the version of the software identified by the unique identifier based on the update information.